

UNUSUAL HAZE CONDITIONS OVER THE UNITED STATES AND THE CARIBBEAN SEA IN 1933

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An article entitled "Haze Conditions at New Orleans, May 5-9, 1933," by G. L. Canaday, appeared in the April 1933 issue of the MONTHLY WEATHER REVIEW. Mr. Canaday attributed the haze to dust, carried far eastward from the elevated arid regions of the Southwest by strong westerly winds.

His description of the haze conditions fitted so perfectly the haze conditions existing at Miami, Fla., from May 4 to 13, that my interest was aroused; especially so when it was noted that haze began earlier at Miami than at New Orleans.

The haze appeared to be confined largely to the upper atmosphere, but at times enough dust particles reached the lower air strata to reduce surface visibility to 5 or 6 miles along the east coast of Florida, where visibility is normally 12 to 15 miles, or more. At the times of greatest density the haze appeared as a uniform structureless white blanket across the sky. At night only the moon and planets and a few of the brightest stars were faintly visible. By day the sun was dimmed to such an extent that several people called the local Weather Bureau office and asked why the sun (mistaken for the moon) appeared so large. Others, believing a hazy sky portends a hurricane, asked if any storm was expected. The effects of the haze are well shown in the following table:

Miami, Fla.

[Sun-intensity units (gram cal. per sq. cm.)]

	1930	1931	1932	1933	Average, 1930-33	Average, possible or clear sky	1933 average daily clouds	Precipitation
May 4.....	445	330	387	337	375	475	19	0
May 5.....	452	389	427	368	409	475	18	0
May 6.....	446	353	352	378	382	475	2	0
May 7.....	400	365	439	393	399	475	1	0
May 8.....	464	205	467	365	375	475	2	0
May 9.....	462	470	356	367	414	475	0	0
May 10.....	453	472	382	333	410	475	19	0
May 11.....	329	468	386	291	368	475	10	T
May 12.....	439	395	373	340	387	475	6	0
May 13.....	472	464	266	387	397	475	4	0
May 14.....	446	476	399	350	418	475	18	0
Percent of possible intensity units.....	85	86	75	74				
Percent of possible hours of sunshine.....	61	73	56	71				

¹ Mostly high thin clouds—or a few cirroform clouds mixed with haze.

NOTE.—Sun-intensity data furnished by Dr. O. J. Sieplein, director of the Miami Sun Ray Research of the Joseph H. Adams Foundation.

At that time, the haze, occasionally augmented by light smoke from muck fires in the nearby Everglades, was attributed by the local office to forest fires, which newspapers a week previous had reported in South Carolina and northern Georgia. (On one or more occasions in the past smoke and hazy conditions over Florida have been caused by forest fires in the Carolinas.)

Dust from the western deserts hardly could be carried as far as Miami, and in any event such haze would appear at New Orleans earlier than at Miami. On the other hand, the smoke from forest fires in South Carolina could not travel westward against the prevailing winds to New Orleans.

Airways reports from Miami to Richmond, Va., indicated the haze conditions to be general over the entire area, beginning as early as May 1 at Richmond, and continuing to May 15, or later, at various coast stations. While dates of beginning and ending could not be ascertained, Pan American Airways observers reported haze at Habana, Cuba, on May 7 and 8, at San Julian, Cuba, on May 12, 13, and 14, and at Nuevitas, Cuba, on May 19, 22, and 24.

A Pan American pilot flying between Barranquilla, Colombia, and Kingston, Jamaica, over the Caribbean on July 14, 1933, reported very thick volcanic [?] dust which coated both plane and clothing, and, when we consider that the haze drifted at a considerably slower rate over Cuba than over the United States, it seems possible that the dust encountered between Barranquilla and Kingston was part of that which had caused haze over the United States in May.

A mechanic of the Eastern Air Transport line at Miami says that during this period of haze the planes arriving at Miami were covered with fine white dust. Pilot Archibald Comer of the Eastern Air Transport lines, flying from Miami to Atlanta, says the haze usually was much fainter above 2,000 feet elevation, the greatest density commonly occurring at about 1,000 feet altitude.

The period of haze was characterized by deficient rainfall over the Southern and Eastern States, generally. Whether the dust influenced the rain in any way is unknown. The only precipitation to occur at Miami, during this period was a trace on the 11th, a day when no haze was recorded, probably owing to the cloudy condition of the sky. The normal rainfall for this period at Miami is 1.56 inches.